

MATH INTERVENTIONS UPDATE

A MONTHLY UPDATE FOR THE MATHEMATICS ACHIEVEMENT FUND GRANT

NOVEMBER 2015

VOLUME 4 – ISSUE 3



KCM CONFERENCE: "CALL TO ACTION"

Registration is now open for the 2016 Kentucky Center for Mathematics conference at the Griffin Gate Marriott Resort and Spa in Lexington, Kentucky. The conference will be held March 7th and 8th with a post-conference day on the 9th. The conference is dedicated to professional learning among P-16 educators working to improve mathematics achievement. Join Kentucky's passionate, knowledgeable and ambitious mathematics education community as we work together to ensure the success of all students through the effective implementation of "high-leverage" teaching practices as described by the National Council of Teachers of Mathematics in their landmark publication, *Principles to Action: Ensuring Success for All*.

For more information: <http://www.kentuckymathematics.org/KCMConference2016/index.html>

Speaker Proposals

The KCM invites you to submit a speaker proposal for the 2016 conference! Speaker proposals will be accepted now through December 11, 2015. Edits to speaker proposals will be able to be made up until 11:59pm that evening. All proposal submitters will receive an email by 5pm on Monday, January 11, 2016 to let them know if their proposal has or has not been accepted to be presented at the 2016 conference. If a proposal is selected, the lead speaker will automatically be registered for the conference and their registration fee will be waived. The lead speaker will not need to register again through attendee registration. Any co-speakers **MUST** register through attendee registration and pay the standard registration fee of \$125.

Attendee Registration

Attendee registration will be available through February 26, 2016.

Attendee Registration Fee: \$125 (per person)

Undergraduate Student Registration Fee: \$45 (per person)

Room Monitor Registration Fee: \$0 (This options is for undergraduate students currently enrolled in a state-accredited university or college who agree to monitor a room for a minimum of 2 conference sessions.

Yearly KDE Requirements:

Beginning of the School Year

- ☒ Assurance Statement & Budget Summary
- ☒ Orientation Meeting
- ☒ Schedule Sent to the KDE

By October 30th

- ☒ Infinite Campus Intervention Tab Utilized

By January 30th

- ☐ Infinite Campus Intervention Tab Updated
- ☐ MIT Mid-Year Survey

By March 30th

- ☐ Infinite Campus Intervention Tab Updated

End of the School Year

- ☐ Infinite Campus Intervention Tab Completed
- ☐ MIT End-of-Year Survey

Department of Education

Office of Next-Generation Learners
Division of Learning Services
Differentiated Learning Branch

Associate Commissioner: Dr. Amanda Ellis
Division Director: Gretta Hylton
Branch Manager: April Pieper
Math Intervention Consultant: Pamela Pickens

INTERVENTION TAB



Infinite Campus Intervention Tab Update

The following are required to have student intervention plans in the Intervention Tab in IC:

- All high school seniors who did not meet statewide ACT benchmarks on the junior year administration
- All Extended School Services (ESS) students
- All 3rd Year Focus Schools (for their students scoring Novice)
- All students served by Read to Achieve (RTA) grants
- **All students served by Mathematics Achievement Fund (MAF) grants**

Data will be pulled from the Intervention Tab quarterly, on October 30, January 30, March 30 and then the final pull on June 30.

There were common data entry errors noted in analysis of the 2014-15 data. Please consider the following:

- ✓ The Intervention Type (i.e., Course, ESS, Other) must be indicated in the tab.
- ✓ If the Intervention Type selected is "Course," then the appropriate *state* course code must be entered in the text box. **(No course code for MAF)**
- ✓ If "Other" is selected in any tab area, an explanation of "other" should be provided in the accompanying text box. This is the Intervention Type you would use for your KSI/ RTI interventions. In this case, the explanation for "Other" could simply be RTI.
- ✓ When selecting Intervention Type, if "RTA" or "MAF" is chosen, please understand that these are **primary** intervention grants that have been awarded to certain schools. You should not select "RTA" or "MAF" unless your school has one of these grants.
- ✓ When adding codes, please consult the latest edition of the Coding Document. Codes are added frequently, and a few codes have recently changed. You can find the most recent coding document [here](#).
- ✓ For Content Area of service, multiple content areas under the "Other" heading cannot be combined. If the student is receiving intervention services in reading and in math, then this must be recorded in two separate intervention records for the student.

If you receive communication from KDE about data entry errors, please be timely (within two weeks) in correcting those issues and informing KDE staff that the errors have been corrected.

Questions?

Please contact April Pieper at april.pieper@educaiton.ky.gov or by telephone at 502-564-4970, ext. 4519.

Resources for the Intervention Tab -

http://education.ky.gov/educational/int/ksi/Pages/ksiIC_InterventionTab.aspx

Mathematical Practice of the Month

To emphasize the Mathematical Practices, the CCSS gives them their own distinct section, but they are not to be thought of as a separate skill set to be handled in special lessons or supplements. The intent is that these *essential mathematical habits of mind and action* pervade the curriculum and pedagogy of mathematics, K–12, in age-appropriate ways.

3 - Construct viable arguments and critique the reasoning of others.


Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

Resource: Common Core State Standards Initiative <http://www.corestandards.org/>

Anchor Charts for this Mathematical Practice




Resource: Jordan School District <http://elemmath.jordandistrict.org/files/2012/05/Standard-31.pdf>

Construct viable arguments and critique the reasoning of others. Mathematical Practice 3






I can explain my thinking and consider the mathematical thinking of others.

I can explain my strategy using...

- objects 
- drawings 
- actions 

I can compare my strategy with others by...


- listening 
- asking questions 
- making connections between my own thinking and others 

Left – K-1

Right – 2-3


Bottom – 4-5

Construct viable arguments and critique the reasoning of others. Mathematical Practice 3





I can explain my thinking and respond to the mathematical thinking of others.


I can explain my strategy using...

- objects, drawings, and actions 
- examples and non-examples
- contexts

I can compare strategies with others by...

- listening 
- asking useful questions 
- understanding mathematical connections between strategies

Construct viable arguments and critique the reasoning of others. Mathematical Practice 3



I can make logical arguments and respond to the mathematical thinking of others.

I can make and present arguments by...

- using objects, drawings, diagrams and actions
- using examples and non-examples
- relating to contexts

I can analyze the reasoning of others by...

- listening
- asking and answering questions
- comparing strategies and arguments

RECOMMENDED READING

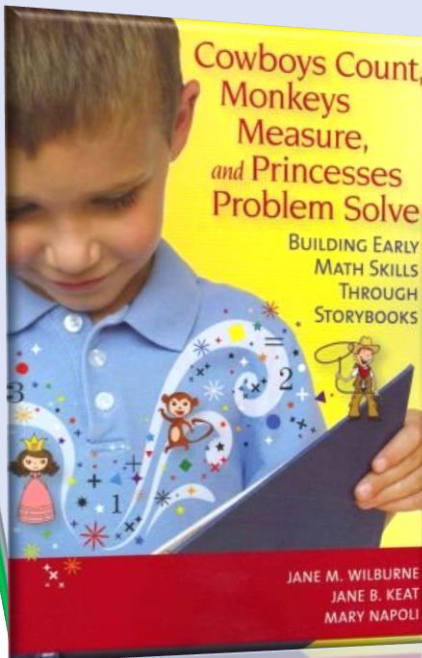
Cowboys Count, Monkeys Measure, and Princesses Problem Solve: Building Early Math Skills through Storybooks

by Jane Wilburne, Jane Keat and Marv Napoli

Ready for any educator to pick up and start using, this concise book gives teachers the guidance they need to find high-quality storybooks on their own bookshelf, read them to children effectively, and develop age-appropriate math problems based on the story's plot, characters, setting, and illustrations.

Benefits:

- ✓ **Helps teachers meet NCTM guidelines.** Included sample lessons explicitly link storybook-based math instruction to the curriculum focal points identified by the National Council of Teachers of Mathematics (NCTM).
- ✓ **Targets foundational math skills.** Learn how to pose higher level, open-ended math questions related to the story, so children develop the problem-solving, reasoning, and critical thinking skills they'll build on forever.
- ✓ **Improves literacy skills.** Respond to the NCTM's call for increased connection between literature and mathematics.
- ✓ **Works with any storybook.** Teachers will see how to use the high-quality storybooks they already have to engage students in mathematical discovery—even if there are no numbers or math concepts in the book.
- ✓ **Connects math with real life.** Relate math concepts to students' everyday lives, so they understand that math is more than problems in a textbook.
- ✓ **Keeps students engaged.** The playful, imaginative storybook approach promotes student engagement and enthusiasm—the two major characteristics children exhibit when they're learning well.
- ✓ **Polishes teachers' own "mathematical lenses."** Perfect for teachers who say they "hate math," this book opens their eyes to the mathematical concepts all around them, so they can recognize teaching opportunities in their classrooms.



The Kentucky Center for Mathematics (KCM) is on ***Pinterest***

So many teachers are using Pinterest to share ideas, now you can follow KCM for even more great ideas!

<http://www.pinterest.com/kcmmath/>

MAF RESOURCE PAGES

The Kentucky Department of Education MAF Resource Page -

<http://education.ky.gov/curriculum/conpro/Math/Pages/MAF-Grant.aspx>

The Kentucky Center for Mathematics MAF Resource Page -

http://www.kentuckymathematics.org/maf_resources_for_2015-2016.php

Awesome Apps



Bugs and Numbers covers a wide range of math skills – spanning preschool through early elementary – all in one educational app. Preschoolers would do best to start at the beginning and work their way through the progression of the games. The first six games cover preschool skills. The next six are geared to kindergarten skills, and the third six focus on early elementary skills.



Moose Math – by Duck Duck Moose cover early math skills in a fun build-your-own-world environment. Every detail, from the kid-friendly narration to hints, is designed with young kids in mind. Parents and teachers can see reports of their kids' progress.



Park Math presents kids with a series of fun, interactive math games. Kids will count rabbit's swings, subtract ducks as they go down a slide, make two amounts even by adding or removing mice from a seesaw, and more. The activities all allow the children to physically manipulate the objects they are counting.

SERIOUSLY, MATH JOKES!

How do you make 7 even? *Take away the s.*

What insect is good with numbers? *An accountant-ant.*

What do you call 3 feet of trash? *A junk yard.*

What did 2 say to the other prime numbers?
I'm glad that one of us is even-tempered.

Why did the yardstick insist that his parents
stop supporting him financially? *He wanted to
stand on his own three feet.*

How many tents will a campground hold?
Ten – because ten tents make up one whole!



November 30, 2015 – Fall data and DOR submission deadline

December 11, 2015 – Deadline to Submit Speaker Proposals for KCM Conference

January 30, 2016 – Mid-Year Survey Due

January 30, 2016 – Infinite Campus Intervention Tab Data Pull

March 7-9, 2016 – KCM Conference, Lexington

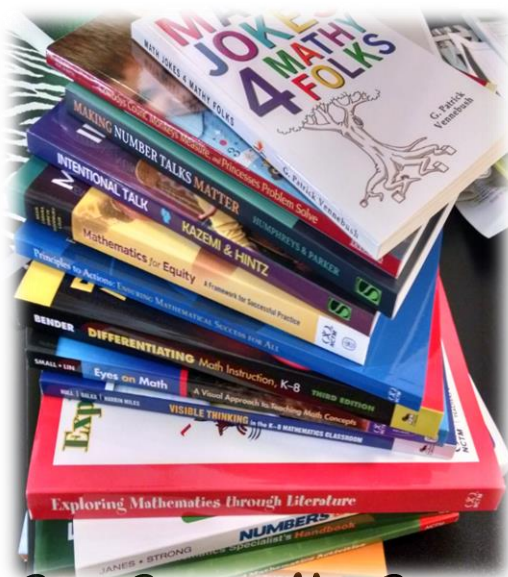
March 30, 2016 – Infinite Campus Intervention Tab Data Pull

April 18, 2016 – Online data and DOR help session – online meeting

May 30, 2016 – End-of-Year Survey Due

May 30, 2016 – Spring data and DOR submission deadline

June 30, 2016 – Infinite Campus Intervention Tab Data Pull



Books, Books, and More Books –

Just like a teacher....I am still excited about getting new books to read and use as a resources. ☺

A Quick Thought

After reviewing schedules and talking to several MITs, I received numerous questions about planning and how much planning should be allowed for MITs. This is yet another tough question. In a perfect teacher's world, he or she would have enough time during the day to get everything done without having to lug the teacher tote bag home. As teachers, our ultimate goal is student learning. Student learning does not just happen when we sit in front of a lesson plan book and write out what we plan to do for the week. I wish it was that simple. When teachers plan, we do so much more. We research new strategies, meet with colleagues and parents, examine data, create and revise assessments, and all of the additional "duties as assigned" to us. (And it is a bunch!) When students are at school, they need to be our main focus. The instructional day should be focused around instruction.

With this in mind, MITs should never have more time "planning" than he or she has time delivering math instruction. If you are dedicating one day a week to planning activities, like progress monitoring, PLCs, teacher support, gathering supplies and resources, please be sure the other four days are being utilized appropriately for providing interventions to students.

Depending on the grant approved program you are implementing, your "planning" might look very different from other MITs in the state. If you ever have questions or concerns about changes in your schedule, feel free to contact your Regional Coordinator or me at any time. We are always here to help. ☺

Being an MIT does not mean you deserve less or more planning than other teachers in the building. You are the math instructional leader for your school. Others' perception of your role in the building can easily be overshadowed by misusing the instructional day for planning activities.



DATA, DATA, DATA

Just like teachers at the school level, we at the KDE need to be data-driven. When I want to see how the Mathematics Achievement Fund is doing with regards to math interventions, I can use the information you enter into the Intervention Tab in Infinite Campus to link with a number of universal screeners' data. The main screeners we can access are NWEA MAP, Star Math and Discovery Education (ThinkLink). Because MAP had an overwhelming larger number of entries last year, I focused on that data to review and analyze for this monthly update. (Remember, we are looking at the interventions provided, not the universal screener.)

With the implementation of the Infinite Campus Intervention Tab, the following NWEA MAP data was pulled from CIITS for students receiving MAF interventions with fall, winter, and spring MAP scores.

When looking at percentile growth ...

- Kindergarteners: underperformed a state comparison group by 1.14 percentile points
- First graders: outperformed a state comparison group by 1.35 percentile points
- Second graders: outperformed a state comparison group by 4.18 percentile points
- Third graders: outperformed a state comparison group by 4.12 percentile points

When looking at students who performed below the 10th percentile in the fall,

- On average, Kindergarteners had a 17.5 percentile growth by the spring MAP test
- On average, first graders had a 12.0 percentile growth by the spring MAP test
- On average, second graders had a 12.08 percentile growth by the spring MAP test
- On average, third graders had a 11.67 percentile growth by the spring MAP test

When looking at students who performed between the 11th and 20th percentile in the fall

- On average, Kindergarteners had a 19.57 percentile growth by the spring MAP test
- On average, first graders had a 12.05 percentile growth by the spring MAP test
- On average, second graders had a 11.6 percentile growth by the spring MAP test
- On average, third graders had a 7.04 percentile growth by the spring MAP test

When looking at students who performed between the 21st and 30th percentile in the fall,

- On average, Kindergarteners had a 28.77 percentile growth by the spring MAP test
- On average, first graders had a 9.63 percentile growth by the spring MAP test
- On average, second graders had a 4.89 percentile growth by the spring MAP test
- On average, third graders had a 3.76 percentile growth by the spring MAP test

When looking at MAP RIT scores,

- Kindergarteners: exceeded the expected growth of 15.0 by 6.9 for a growth of 21.9 points
- First graders: exceeded the expected growth of 16.0 by 3.0 for a growth of 19.0 points
- Second graders: exceeded the expected growth of 13.0 by 3.4 for a growth of 16.4 points
- Third graders: exceeded the expected growth of 11.0 by 2.7 for a growth of 13.7 points

Kindergarten

First

Second

Third